

Appl. No. 10/644,475  
Amdt. Dated January 25, 2006  
Reply to Final Office Action of November 25, 2005

### **REMARKS**

Claims 1, 2, and 5-19 are pending in the application.

Applicant submits the claims are all in a condition for allowance, and respectfully requests that the Examiner pass the application to issuance.

### **Claim Rejections Under 35 U.S.C. §103**

Claims 1, 2, and 5-19 stand rejected under 35 U.S.C. §103 as being unpatentable over Kragtwijk, EP 763 448 A1 in view of Jaekel, U.S. Patent No. 6,543,266 and Breese, U.S. Patent No. 5,983,497. This differs from the prior Office Action in which the claims were rejected by the combination of Breese in view of Jaekel and Kragtwijk. Nevertheless, Applicant traverses the rejections under 35 U.S.C. §103 and maintains that a *prima facie* case of obviousness has not been established. Further, for the reasons set forth below, the combination is improper in view of the lack of motivation or suggestion to combine the references.

First, the combination of references fails to disclose or suggest each of Applicant's claimed features. MPEP 706.02(j) and 2143 requires that, to establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Here, the combination of references fail to disclose or suggest at least the following features: an intermediate portion defining two transition areas with respect to the hollow body, wherein at least part of the body lies over the intermediate portion (claims 1 and 14), or a spin-formed transition area wherein at least part of the body lies over the intermediate portion (claim 8), such that in response to a sufficient axial load, the transition area will fracture and allow the body to telescope over the intermediate portion.

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Specifically, Applicant traverses the suggestion in the Office Action that Kragtwijk discloses two transition areas as claimed. Reference numeral 8 in Kragtwijk does not disclose a transition area, and certainly cannot be interpreted to show a transition area of a hollow cylindrical body as the claims require. That portion of Kragtwijk is described as an "end wall 8" forming a collar 10 which projects from the wall 8. The end wall is shown in Figures 1, 2, 3, and 7 of Kragtwijk as reference numerals 8, 26, 34, and 76, respectively. This end wall in the various embodiments acts as an attachment mechanism or a strike plate for transmitting axial force to the energy absorbing unit. In all instances, however, the device of Kragtwijk has a cup-shaped form because of the end wall. This configuration for the various embodiments of Kragtwijk is critical, and results from the energy absorbing unit being formed by cold forging or cold extrusion. Indeed, forging or extruding the energy absorbing unit as a unitary cup-shaped member is the solution of Kragtwijk in response to problems identified with prior art multi-piece energy absorbing units. Indeed, consistent with the disclosure of Kragtwijk, all claims require a unitary member having a radially inwardly extending wall integral therewith. Because the energy absorbing unit of Kragtwijk is forged or extruded, however, it is more properly described as a single cylindrical part having two different diameter portions 2, 4 joined through an annular portion 6 having an arched radial cross section providing an inversion radius. (EP '448, Col. 2, lines 40-46).

Second, Applicant's claims are also non-obvious because the combination of references supporting the obviousness rejections is improper for several reasons. Initially, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP § 2143.01; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). There is no suggestion or motivation to combine the references as proposed in the Office Action. The combination relied upon in the Office Action requires that the cup-shaped device of Kragtwijk be implemented in a driveshaft as taught by Jaekel, and made by a spin-forming process as taught by Breese. Admittedly, Applicant's solution is seemingly simple. "Simplicity is not inimical to patentability", however. *In re Oetiker*, 24 USPQ2d 1443, 1446 (Fed. Cir. 1992).

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The Kragtwijk device would not be used as part of a driveshaft structure. In all instances in the Kragtwijk disclosure, the energy absorbing unit is formed as a unitary cup-shaped member comprising an end wall extending radially inwardly. In other words, Kragtwijk only discloses a device which is operable in connection with the "strike plate", therefore, it does not suggest its use anywhere other than at an end of the tube element. It would not be used in an intermediate tube location. Further, Kragtwijk only discloses forging or extrusion, and Kragtwijk makes it clear that such processes are critical to provide the advantages sought by the energy absorbing unit of Kragtwijk. It teaches away from Applicant's claimed cylindrical body lying over a portion of the intermediate region by way of a spin-forming process. That is, one of skill in the art would not consider spin-forming the features of Kragtwijk because Kragtwijk discloses forging and extrusion as critical to achieving the desired form. The claimed intermediate portion and transition areas of the present application cannot be formed by forging or extrusion which are the emphasized processes in Kragtwijk. Moreover, even if one of skill in the art considered spin-forming the features of Kragtwijk, a reduced diameter intermediate portion with two transition areas as claimed would not necessarily result. More likely, an end of a closed cylinder would be spin-formed to provide the reduced diameter portion. There is no suggestion to create such a structure, by spin-forming, at an intermediate portion of a hollow body.

The Jaekel reference likewise fails to disclose Applicant's claimed two transition areas between the intermediate portion and the hollow cylindrical body. Further, since hydro-forming is the only process disclosed in Jaekel, the body of the shaft could not be formed to overlay any portion of the single transition area. Thus, Applicant submits that the proposition of the Office Action wherein Kragtwijk would be applied to a driveshaft because of Jaekel cannot be supported without relying upon Applicant's disclosure, which is improper.

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Finally, the Breese reference is completely unrelated to the problem addressed by the present invention. The Breese reference is only concerned with forming an aluminum alloy driveshaft tube with a reduced diameter portion to avoid clearance issues with respect to other components of the vehicle near the driveshaft. Breese does not mention or suggest any crash improvement features and, is not concerned with whether the driveshaft can collapse in a controlled fashion under axial loads. Breese does not disclose spin-forming a reduced profile intermediate portion to create a transition area wherein at least part of the cylindrical body lies over the intermediate portion. This can only be accomplished by axial loading of the shaft as it is spin-formed. None of the references suggest this process. Applicant thus submits that one of skill in the art would not be motivated to modify Kragtwijk in view of Breese as the Office Action proposes because the Breese reference is directed toward a completely different problem, and fails to disclose the method necessary to create the claimed structure (claims 1 and 8) or perform the claimed method steps (claims 14, 15, 19).

In sum, the Office Action errs in defining the problem facing the Applicant of the present invention in terms of its solution. *Monarch Knitting Machinery v. Sulzer Morat GmbH*, 139 F.3d 877, 881 (Fed. Cir. 1998); *In Re Zurko*, 111 F.3d 887, 890 (Fed. Cir. 1997). Kragtwijk is directed only toward forging or extruding to result in a unitary cup-shaped energy absorbing unit at an end of a cylinder. Jaekel only discloses a collapsible shaft incapable of being formed to have an overlay portion. Breese is unrelated to crashworthiness, and discloses an admittedly old process. Looking at the three references, however, it cannot be fairly said that one of skill in the art would have understood to relocate the Kragtwijk structure to an intermediate location along a driveshaft, make it a hollow structure, and form it by spin-forming such that it included two transition areas instead of only one. The references do not support such a conclusion.

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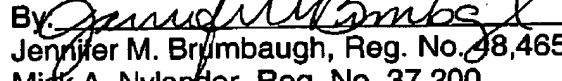
**Conclusion**

Having overcome all of the rejections set forth in the Office Action, the Applicant submits that the application is in a condition for allowance. A Notice of Allowance indicating the allowability of claims 1, 2, and 5-19 is therefore earnestly solicited. The Examiner is invited to telephone the Applicant's undersigned attorney at (248) 377-1200 if any unresolved matters remain.

Respectfully Submitted,

**GKN Driveline North America, Inc.**

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